

ACO 2603 P1US

LISTING OF THE CLAIMS

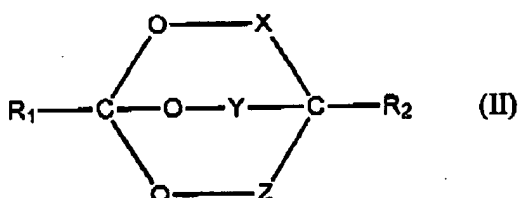
1. (Currently Amended) A coating composition comprising a compound comprising at least one bicyclo-orthoester group having latent hydroxyl groups and at least one hydroxyl reactive functional group represented by the following formula I



wherein

x and y are independently selected from 1 to 10;

A has the structure according to the following formula II



wherein

X and Z are independently from each other selected from linear or branched alk(en)ylene groups with 1-4 carbon atoms optionally containing an oxygen or a nitrogen atom;

Y is nothing or is selected independently of X and Z from linear or branched alk(en)ylene groups with 1-4 carbon atoms optionally containing an oxygen or a nitrogen atom;

one of R₁ and R₂ is a monovalent radical of hydrogen, hydroxyl or alk(en)yl groups having 1-30 carbon atoms which are linear or branched and optionally contains oxygen atoms, nitrogen atoms, sulphur atoms, and/or ester groups;

the other of R₁ and R₂ is a divalent radical with alk(en)ylene groups having 1-10 carbon atoms which groups are linear or branched and optionally contain oxygen atoms, nitrogen atoms, sulphur atoms, and/or ester groups;

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B is a divalent radical of aromatic, aliphatic, cycloaliphatic, and araliphatic hydrocarbon groups having 1-40 carbon atoms which groups are linear or branched and optionally contain oxygen atoms, nitrogen atoms, sulphur atoms, phosphorus atoms, sulphone groups, sulphony groups, amine groups, amide groups, urea groups, urethane groups, and/or ester groups;

ester groups;

ether groups;

amide groups;

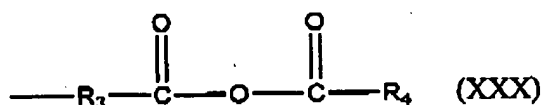
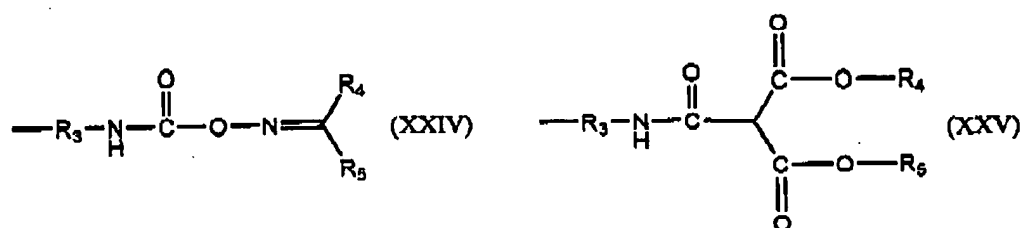
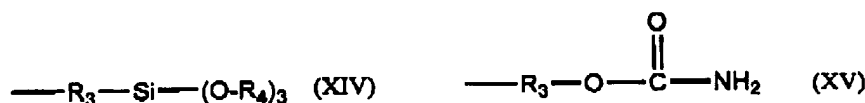
thioester groups;

thioamide groups;

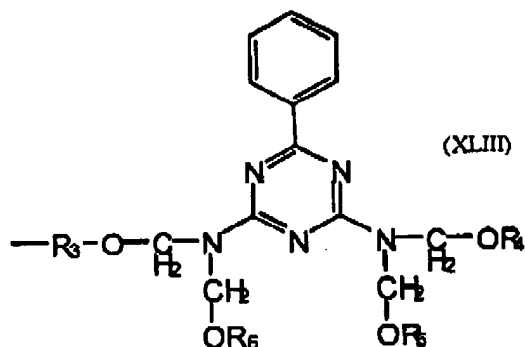
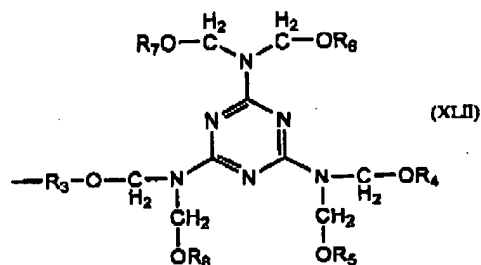
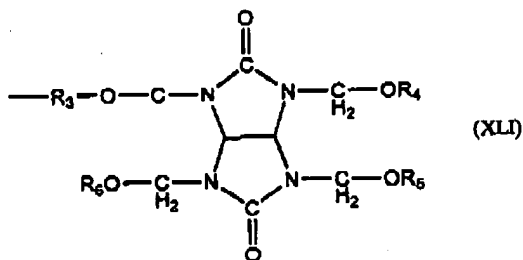
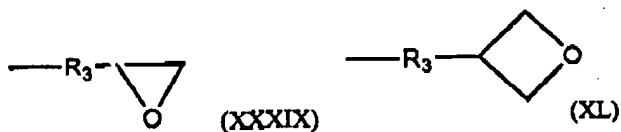
urethane groups; and or

urea groups;

C is a hydroxyl reactive functional group selected from the following formulae:



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wherein R_3 is selected from the group of alk(en)ylene groups having 1-10 carbon atoms which groups are linear or branched and optionally contain one or more ether, ester, urea, urethane, amide, and/or amine groups, and R_4 , R_5 , R_6 , R_7 and R_8 are independently from each other selected from the group of alk(en)yl groups having 1-10 carbon atoms which groups are linear or branched.

2. (Original) A coating composition according to claim 1 wherein X, Y, and Z are methylene.

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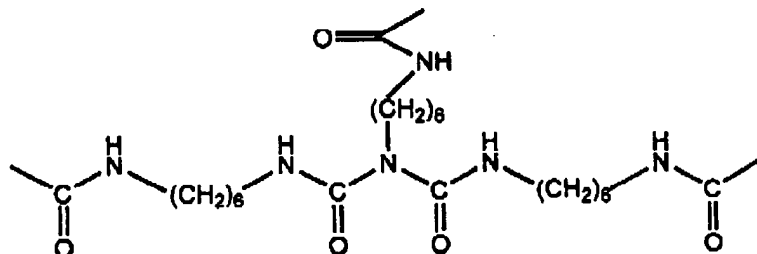
3. Original) A coating composition according to claim 1 wherein one of R_1 and R_2 is a monovalent radical selected from the group of linear or branched alk(en)yl groups having 1-20 carbon atoms.

4. (Previously Presented) A coating composition according to claim 3 wherein the monovalent radical is methyl or ethyl.

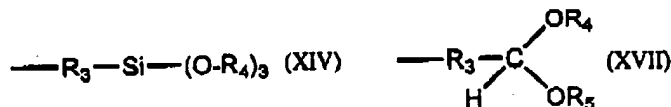
5. (Original) A coating composition according to claim 3 wherein the other of R_1 and R_2 is $-O-C_{1-10}-$.

6. (Original) A coating composition according to claim 1 wherein B is derived from an organic polyisocyanate compound.

7. (Original) A coating composition according to claim 6 wherein the organic polyisocyanate is the biuret of hexamethylene diisocyanate and B has the following chemical structure

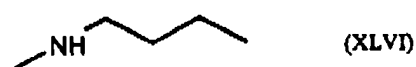
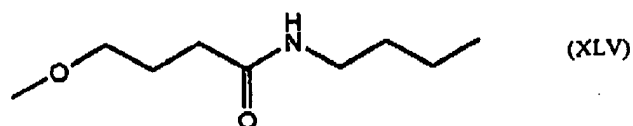
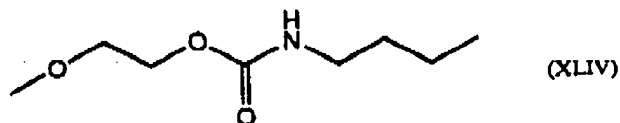


8. (Original) A coating composition according to claim 1 wherein C is selected from the formulae XIV and XVII

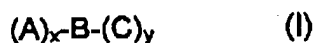


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9. (Original) A coating composition according to claim 8 wherein R_4 and R_5 are methyl or ethyl and R_3 is a group selected from the following formulae XLIV-XLVI



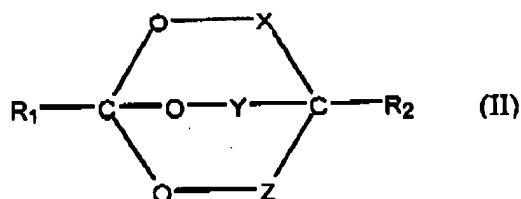
10. (Currently Amended) A coating composition comprising a first compound comprising at least one bicyclo-orthoester group and at least one other functional group wherein said first compound is either 4-ethyl-1-(ethoxycarbonylmethyl)2,6,7-trioxabicyclo[2.2.2]octane or represented by the following formula I



wherein

x and y are independently selected from 1 to 10;

A has the structure according to the following formula II



wherein

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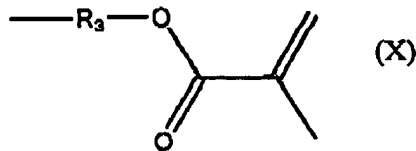
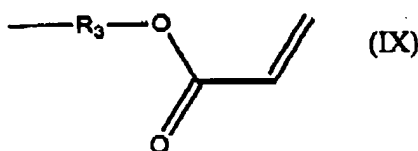
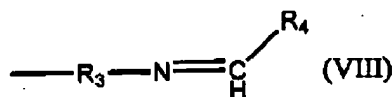
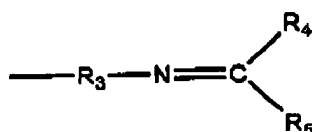
X and Z are independently from each other selected from linear or branched alk(en)ylene groups with 1-4 carbon atoms optionally containing an oxygen or a nitrogen atom;

Y is nothing or is selected independently of X and Z from linear or branched alk(en)ylene groups with 1-4 carbon atoms optionally containing an oxygen or a nitrogen atom;

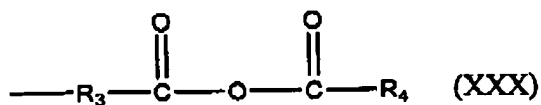
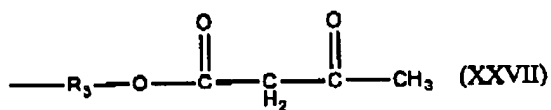
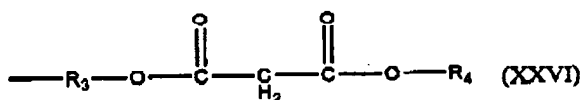
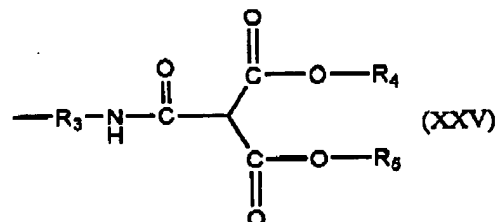
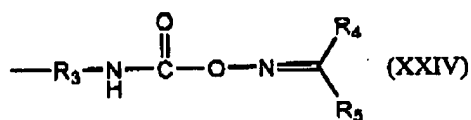
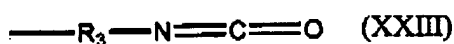
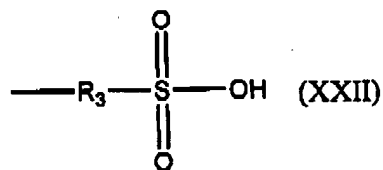
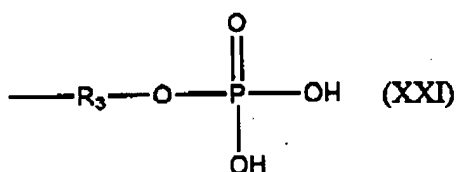
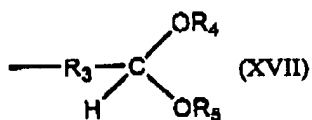
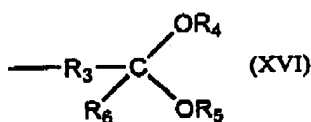
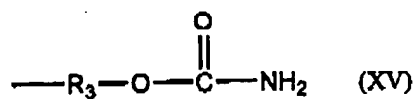
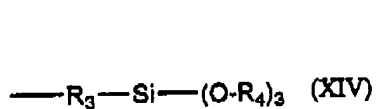
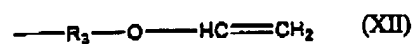
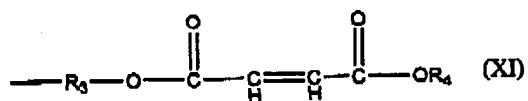
one of R₁ and R₂ is a monovalent radical of hydrogen, hydroxyl or alk(en)yl groups 1-30 carbon atoms which are linear or branched and optionally contains oxygen atoms, nitrogen atoms, sulphur atoms, and/or ester groups; the other of R₁ and R₂ is a divalent radical with alk(en)ylene groups having 1-10 carbon atoms which groups are linear or branched and optionally contain oxygen atoms, nitrogen atoms, sulphur atoms, and/or ester groups;

B is a divalent radical of aromatic, aliphatic, cycloaliphatic, and araliphatic hydrocarbon groups having 1-40 carbon atoms which groups are linear or branched and optionally contain oxygen atoms, nitrogen atoms, sulphur atoms, phosphorus atoms, sulphone groups, sulphony groups, amine groups, amide groups, urea groups, urethane groups, and/or ester groups; ester groups; ether groups; amide groups; thioester groups; thioamide groups; urethane groups; and/or urea groups;

C is a functional group selected from the following formulae:



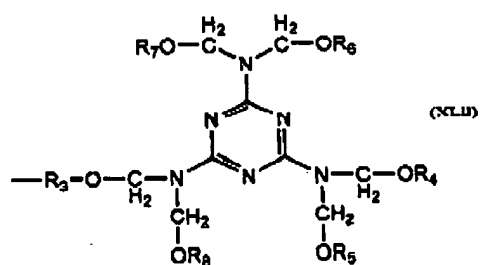
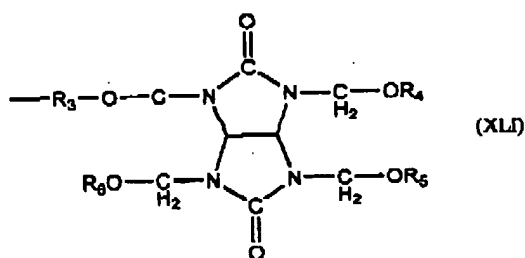
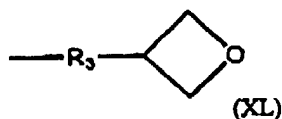
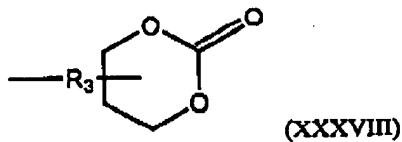
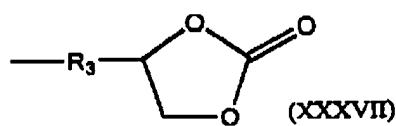
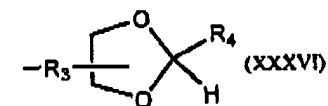
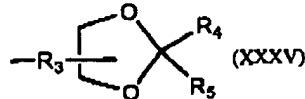
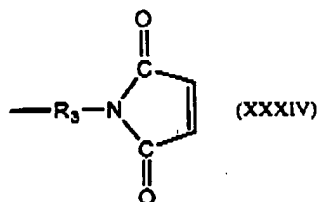
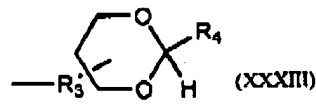
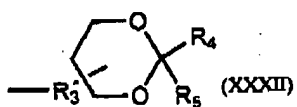
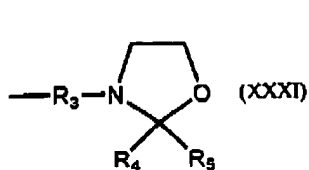
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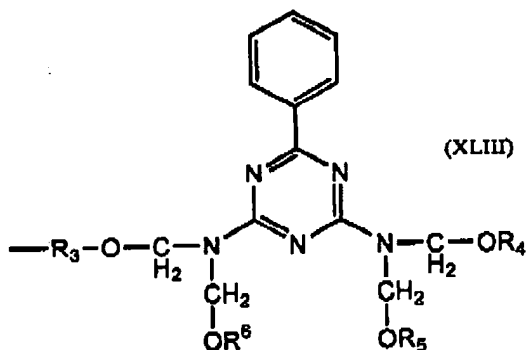
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wherein R_3 is an alk(en)ylene group having 1-10 carbon atoms which groups are linear or branched and optionally contain ether, ester, urea, urethane, amide, and/or amine groups, and R_4 , R_5 , R_6 , R_7 and R_8 are independently from each other selected from alk(en)yl groups having 1-10 carbon atoms which groups are linear or branched,

wherein the coating composition comprises a second compound comprising at least two hydroxyl reactive groups of isocyanate, epoxy, acetal, carboxyl, anhydride, and/or alkoxy silane groups, or the second compound is an amino resin.

11. (Previously Presented) A coating composition according to claim 10, wherein the second compound comprising at least two hydroxyl reactive groups is an aliphatic, cycloaliphatic or aromatic compound comprising at least two isocyanate groups or adducts thereof.

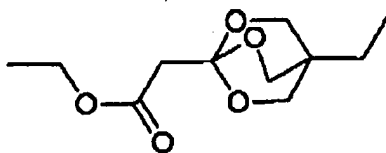
12. (Previously Presented) A coating composition according to claim 11 wherein the second compound comprising at least two hydroxyl reactive groups is an isocyanurate.

13. (Previously Presented) A process for curing a coating composition according to claim 1 wherein the latent hydroxyl groups of the bicyclo-orthoester groups are deblocked in the presence of water, optionally in the presence of a first catalyst.

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and reacted with the hydroxyl-reactive groups of the compound, optionally in the presence of a second catalyst.

14. (Currently Amended) A process for the preparation of a compound comprising at least one bicyclo-orthoester group and at least one other functional group according to the formula



in which a compound having at least one corresponding oxetane group is converted in the presence of a catalytic amount of dibutyl tin oxide at a temperature above 180°C.

15. (Canceled)

16. (Previously Presented) A coating composition according to claim 10 wherein X, Y, and Z are methylene.

17. (Previously Presented) A coating composition according to claim 10 wherein one of R₁ and R₂ is a monovalent radical of linear or branched alk(en)yl groups having 1-20 carbon atoms.

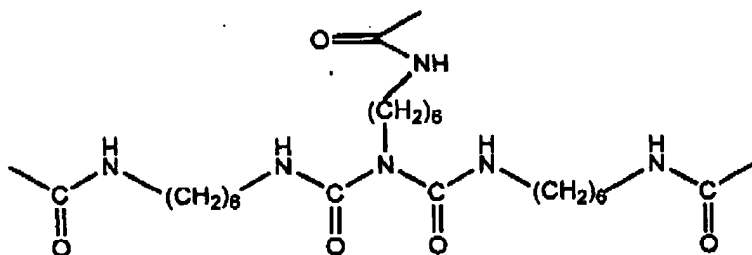
18. (Previously Presented) A coating composition according to claim 17 wherein the monovalent radical is selected from the group of methyl and ethyl.

19. (Previously Presented) A coating composition according to claim 17 wherein the other of R₁ and R₂ is -O-C₁₋₁₀-.

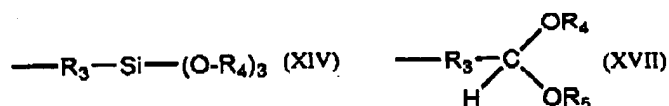
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20. (Previously Presented) A coating composition according to claim 10 wherein B is derived from an organic polyisocyanate compound.

21. (Previously Presented) A coating composition according to claim 20 wherein the organic polyisocyanate is the biuret of hexamethylene diisocyanate and B has the following chemical structure

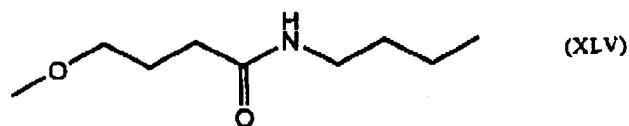
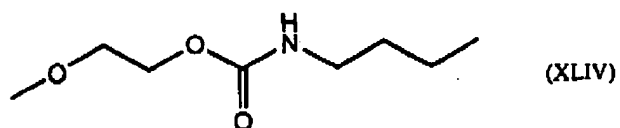


22. (Currently Amended) A coating composition according to claim 10 wherein C is selected from the formulae XIV and or XVII



23. (Previously Presented) A coating composition according to claim 22 wherein R₄ and R₅ are methyl or ethyl and R₃ is a group selected from the following formulae XLIV-XLVI

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24. (Previously Presented) A process for curing a coating composition according to claim 10 wherein the latent hydroxyl groups of the bicyclo-orthoester groups are deblocked in the presence of water, optionally in the presence of a first catalyst, and reacted with the hydroxyl reactive groups of the first and/or second compound, optionally in the presence of a second catalyst.